

THREE NEW SPECIES OF BERIDINAE FROM CHINA (DIPTERA, STRATIOMYIDAE)

QI Feng, ZHANG Ting-Ting, YANG Ding*

Department of Entomology, China Agricultural University, Beijing 100193, China

Abstract Three new species of Beridinae from China are described as follows: *Beris zhouae* sp. nov., *Chorisops striata* sp. nov., *Adina curvata* sp. nov. Their differences from the similar species are discussed. The types are deposited in the Entomological Museum of China Agricultural University, Beijing (CAU).

Key words Diptera, Stratiomyidae, Beridinae, new species, China.

The Palearctic and Oriental Beridinae was studied mainly by Frey (1961), Nagatomi and Tanaka (1969), Rozkošný (1982), Yang and Nagatomi (1992). The Chinese Beridinae was revised by Yang and Nagatomi (1992). Here three new species are added to the fauna of China. The types are deposited in the Entomological Museum of China Agricultural University, Beijing (CAU).

1 *Beris zhouae* sp. nov. (Figs 1–2)

Diagnosis. Antenna dark yellow except last flagellomere black. Wing uniformly brownish. Aedeagus with lateral lobes distinctly longer than median lobe, apically curved inward.

Male. Body length 5.3 – 5.6 mm, wing length 4.6 – 4.7 mm.

Head black with thin gray pollinosity. Eyes contiguous on frons, dark brown. Hairs on head distinct and dark brown except ventral surface with some pale hairs; eyes with distinct hairs. Antennal scape and pedicel brownish yellow, flagellum dark yellow except last flagellomere black. Antennal scape and pedicel black haired; last flagellomere with 3–4 black apical hairs. Antennal ratio 5:5:12. Proboscis yellow with pale hairs.

Thorax metallic green with thin pale gray pollinosity. Scutellum with 6 spines. Hairs on thorax pale. Legs yellow except fore and mid coxae dark yellow, hind coxa blackish, and all tarsomere 5 brown. Hind tarsomere 1 weakly swollen, 1.1 times wider than hind tibia. Hairs on legs pale except all tibiae and fore tarsus with mostly blackish hairs. Wing uniformly brownish; stigma dark brown; veins dark brown; discal cell with posterior width small, apical veins X-shaped. Halter brown.

Abdomen dark brown with gray brown pollinosity. Hairs on abdomen dark brown except tergite 1 with pale lateral hairs. Male genitalia. Tergite

9 wider than long, with large basal incision; cercus long thick; gonostylus thick, weakly curved inward, apically nearly obtuse; gonocoxites wider than long, with weak mid-posterior ventral process; aedeagus with lateral processes distinctly longer than median process, apically strongly curved inward and finger-like.

Female. Unknown.

Holotype ♂, Kuankuoshui (28.2° N, 107° E), Central Station, Guizhou, 3 June 2010, ZHOU Dan. **Paratype** 1 ♂, same locality as holotype, 5 June 2010, ZHANG Pei.

Etymology. The species is named after the collector Ms. ZHOU Dan.

Remarks. This species is somewhat similar to *B. potanini* Pleske, but it can be easily separated from the latter by all femora entirely yellow and aedeagus with the lateral lobes distinctly longer than the median lobe, apically curved inward. In *B. potanini*, all femora are darkened at tip; the aedeagus has the lateral lobes nearly as long as the median lobe, apically curved outward (Yang & Nagatomi, 1992).

2 *Chorisops striata* sp. nov. (Figs 3–4)

Diagnosis. Thorax partly yellow or dark yellow laterally. Abdominal tergites 2–6 each with one narrow transverse yellow stripe at base. Antenna black except pedicel and base of flagellum blackish. Posterior veins of discal cell X-shaped.

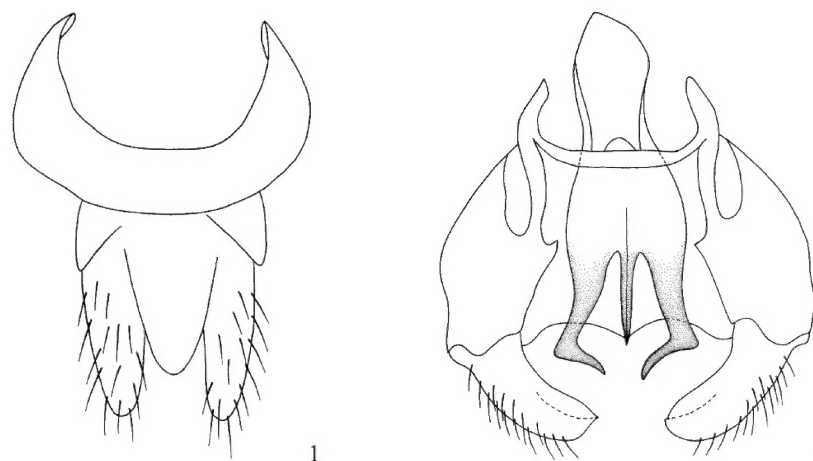
Female. Body length 5.8 – 6.0 mm, wing length 4.8 – 5.0 mm.

Head black, but frons and vertex including ocellar tubercle more or less shining metallic purple. Eyes distinctly separated, reddish brown. Hairs on head pale except occiput with dark brown hairs but ventral surface with pale hairs; hairs on face, frons and vertex very short; eyes bare. Antenna black except pedicel

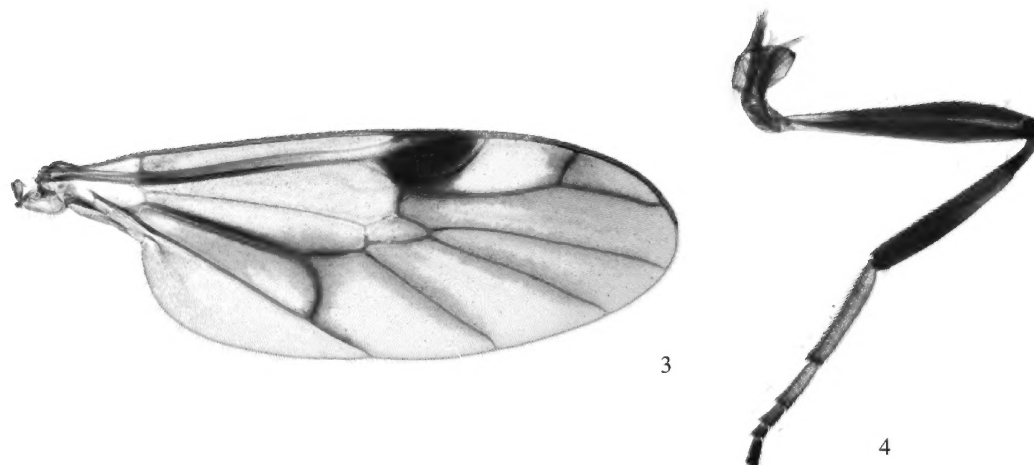
The research was supported by the Graduate Students' Scientific Research Innovation Projects of China Agricultural University.

* Corresponding author, E-mail: dyangcau@126.com

Received 19 Jan. 2011, accepted 22 Feb. 2011.



Figs 1–2. *Beris zhouae* sp. nov. 1. Tergites 9–10 and cerci, dorsal view. 2. Genital capsule, ventral view.



Figs 3–4. *Chorisops striata* sp. nov. 3. Wing. 4. Hind leg.

and base of flagellum blackish; last flagellomere distinctly longer than pedicel; scape and pedicel with black hairs. Antennal ratio 7:5:30. Proboscis yellow with blackish hairs; palpus brownish yellow with blackish hairs.

Thorax black, but mesoscutum and scutellum shining metallic purple; scutellum with 4 spines pale yellow. Humeri and postalar calli dark brownish yellow. Lower propleuron, upper mesopleuron and hypopleuron dark yellow. Hairs on thorax pale; mesoscutum and scutellum with only short hairs. Legs including coxae yellow, except extreme tip of hind femur black, hind tibia dark brown with a brownish yellow or brownish subbasal ring; fore tarsus entirely dark brown, mid and hind tarsomeres 3–5 brown. Hind femur clavate with slightly thin base; hind tibia slightly thickened, hind tarsus indistinctly thickened, hind tibia distinctly thicker than hind tarsomere 1. Hairs on legs blackish except coxae with pale hairs. Wing nearly hyaline, but tinged gray along most veins; stigma dark brown; cell R_{2+3} hyaline except base and extreme tip; veins dark brown; M_1 and M_2

somewhat convergent at base, posterior veins of discal cell X-shaped; M_3 absent. Squama brownish yellow with pale hairs. Halter yellow.

Abdomen dark brown except tergites 2–6 each with one narrow transverse yellow stripe at base and sternites 2–6 brownish yellow or yellow. Hairs on abdomen black except tergites 1–5 with pale lateral hairs.

Male. Unknown.

Holotype ♀, Kuankuoshui (28.2°N, 107°E), dam, Guizhou, 4 June 2010, LI Yan. Paratypes 3 ♀♀, Kuankuoshui, Central Station, Guizhou, 3 June 2010, ZHOU Dan.

Etymology. The specific name refers to the yellow transverse stripes of the abdomen.

Remarks. This species is very similar to *C. unita* Yang *et* Nagatomi, but it can be easily separated from the latter by the thorax partly yellow or dark yellow laterally and abdominal tergites 2–6 each with one narrow transverse yellow stripe at base. In *B. unita*, the thorax is entirely black laterally, the abdominal tergites 2–5 have the large wide yellow mid-basal

spots (Yang & Nagatomi, 1992).

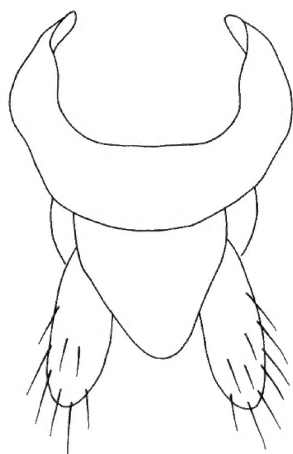
3 *Actina curvata* sp. nov. (Figs 5–6)

Diagnosis. Antenna black except flagellum blackish with last flagellomere black. Wing hyaline except only stigma dark brown.

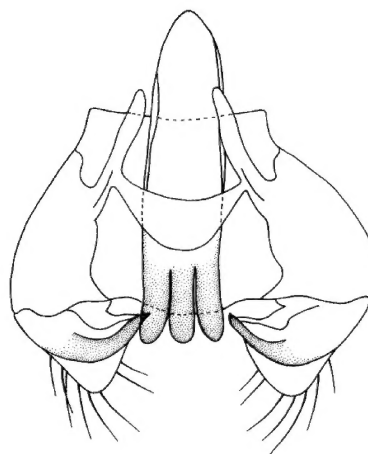
Male. Body length 5.9–6.1 mm, wing length 4.4–4.6 mm.

Head black, but frons and vertex including ocellar tubercle more or less shining metallic green. Eyes

distinctly separated, reddish brown. Hairs on head dark brown except ventral surface with pale hairs; hairs on face, frons and vertex rather long; eyes short haired. Antenna black except flagellum blackish with last flagellomere black; scape and pedicel with black hairs, last flagellomere with 2 short hairs at tip. Proboscis pale yellow with blackish hairs; palpus black with black hairs.



5



6

Figs 5–6. *Actina curvata* sp. nov. 5. Tergites 9–10 and cerci, dorsal view. 6. Genital capsule, ventral view.

Thorax black, but mesonotum and scutellum shining metallic green. Humeri and postalar calli dark brown. Hairs on thorax pale except mesonotum with several long dark brown hairs mostly on antero-lateral and mid-posterior areas. Scutellum with 4 dark yellow spines. Legs yellow, except coxae and trochanters blackish; hind femur with extreme tip brown, hind tibia dark brown with basal portion brownish yellow; fore tarsus entirely dark brown, mid and hind tarsomeres 3–5 dark brown apically. Hind tarsomere 1 weakly thickened. Hairs on legs blackish except coxae with pale hairs and femora with pale ventral hairs. Wing hyaline except only stigma dark brown; veins dark brown; posterior width of discal cell slightly larger than apical width. Squama dark yellow with brown hairs. Halter pale yellow with yellow base.

Abdomen dark brown, tinged metallic purple. Hairs on abdomen blackish except tergites 1–4 with long pale lateral hairs. Male genitalia. Tergite 9 nearly as long as wide, with large basal incision; gonocoxal dorsal bridge relatively small; gonostylus nearly conical with short inner lobe acute apically; aedeagus with three obtuse lobes equal in length, lateral lobe apically weakly curved outward.

Female. Unknown.

Holotype ♂, Kuankuoshui (28.2°N, 107°E), Central Station, Guizhou, 3 June 2010, ZHOU Dan.

Paratypes 2 ♂♂, same data as holotype.

Etymology. The specific name refers to the slightly curved tip of the aedeagal lateral lobe.

Remarks. This new species is similar to *A. fanjingshana* Li, Zhang *et* Yang, but may be separated from the latter by the wing hyaline, aedeagus with the lateral lobe weakly curved outward at tip and fused ventral portion of the gonocoxites nearly straight at base. In *A. fanjingshana*, the wing is indistinctly tinged brownish apically; the lateral lobe of the aedeagus is straight; the fused ventral portion of the gonocoxites has a V-shaped incision at base (Li, Zhang & Yang, 2009).

REFERENCES

- Frey, R. 1961. Orientalische Stratiomyiden der subfamilien Beridinae und Metoponiinae (Dipt.). *Notulae Entomologicae*, 40: 73–85.
- Li, Z., Zhang, T-T and Yang, D 2009. Two new species of *Actina* from China (Diptera, Stratiomyidae). *Acta Zootaxonomica Sinica*, 34 (4): 798–800. [动物分类学报]
- Nagatomi, A. and Tanaka, A. 1969. The Japanese *Actina* and *Allognosta* (Diptera, Stratiomyidae). *The Memoirs of the Faculty of Agriculture, Kagoshima University*, 7 (1): 149–176.
- Rozkošný, R. 1982. A Biosystematic Study of the European Stratiomyidae (Diptera). Vol. 1. Introduction, Beridinae, Sarginae and Stratiomyinae. *Series Entomologica*. 21. pp. 1–401.
- Yang, D and Nagatomi, A. 1992. A study on the Chinese Beridinae (Diptera: Stratiomyidae). *South Pacific Study*, 12 (2): 129–178.

中国柱角水虻亚科三新种（双翅目，水虻科）

齐 枫 张婷婷 杨 定*

中国农业大学昆虫学系 北京 100193

摘 要 记述我国柱角水虻亚科 3 新种，即周氏柱角水虻 *Beris zhouae* sp. nov., 条斑离眼水虻 *Chorisops striata* sp. nov., 弯突星水虻 *Actina curvata* sp. nov.。模式标本保存在中国农业大学昆虫博物馆。

1 周氏柱角水虻，新种 *Beris zhouae* sp. nov. (图 1~2)

新种与平头柱角水虻 *B. potanini* Pleske 近似，但足腿节全黄色，阳茎侧叶明显长于中叶且末端强烈内弯。

正模 ♂，贵州宽阔水中心站，2010-06-03，周丹采。副模 1 ♂，贵州宽阔水中心站，2010-06-05，张培采。

2 条斑离眼水虻，新种 *Chorisops striata* sp. nov. (图 3~4)

新种与长刺离眼水虻 *C. unila* Yang *et* Nagatomi 很近似，

关键词 双翅目，水虻科，柱角水虻亚科，新种，中国。

中图分类号 Q969.447.5

但胸部侧面部分黄色或暗黄色，腹部第 2~6 背板基部有黄色的横条斑。

正模 ♀，贵州宽阔水水库，2010-06-04，李彦采。副模 3 ♀，贵州宽阔水中心站，2010-06-03，周丹采。

3 弯突星水虻，新种 *Actina curvata* sp. nov. (图 5~6)

新种与梵净山星水虻 *A. fanjingshana* Li, Zhang *et* Yang 近似，但翅白色透明，阳茎侧叶末端稍外弯，生殖基节腹部基缘近直。

正模 ♂，贵州宽阔水中心站，2010-06-03，周丹采。副模 2 ♂，同正模。

* 通讯作者，E-mail: dyangcau@126.com